

12. The composition of claim **1**, wherein the first and second nucleic acid molecules each independently comprise the polynucleotide sequence of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6.

13. The composition of claim **1**, wherein the first promoter is operably coupled to a repressor operator sequence, to which a repressor protein can bind in order to repress expression of the promoter in the presence of said repressor protein.

14. The composition of claim **13**, wherein the first promoter comprises a CMV promoter and a tetracyclin operon operator (TetO) sequence.

15. A composition for treating a subject having persistent HPV infection, the composition comprising:

- a. a first vaccine composition comprising a recombinant human adenovirus serotype 26 (Ad26) vector comprising a first nucleic acid sequence encoding a first polypeptide comprising the amino acid sequence of SEQ ID NO: 1 and at least one epitope of a human papillomavirus (HPV) E2 protein, wherein the first nucleic acid sequence is operably linked to a first promoter, and
- b. a second vaccine composition comprising a Modified Vaccinia Ankara (MVA) vector comprising a second nucleic acid sequence encoding a second polypeptide comprising the amino acid sequence of SEQ ID NO: 1 and at least one epitope of a human papillomavirus

(HPV) E2 protein, wherein the second nucleic acid sequence is operably linked to a second promoter; wherein the first vaccine composition and the second vaccine composition is administered to the subject for priming vaccination and the second vaccine composition is administered to the subject for boosting administration.

16. The composition of claim **15**, wherein the first and second polypeptides each further independently comprise a leader sequence.

17. The composition of claim **15**, wherein the first and second polypeptides each independently comprise an HPV16 E2 protein having a deletion or mutation in the DNA binding domain of the HPV16 E2 protein.

18. The composition of claim **17**, wherein the first and second polypeptides each independently comprise SEQ ID NO: 3 or SEQ ID NO: 5.

19. The composition of claim **15**, wherein the first and second nucleic acid molecules each independently comprise the polynucleotide sequence of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6.

20. The composition of claim **15**, wherein the first promoter comprises a CMV promoter and a tetracyclin operon operator (TetO) sequence.

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